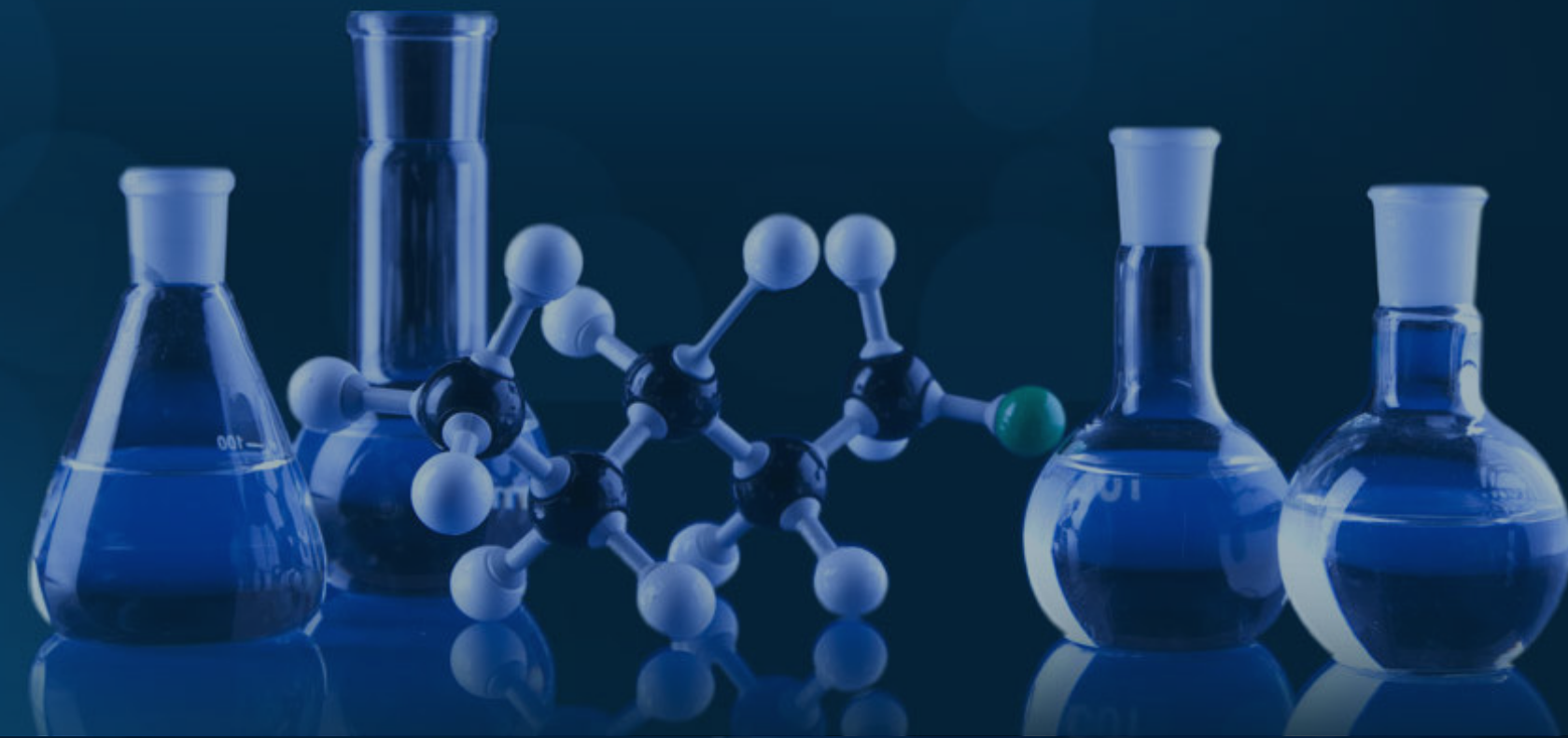




ARL is an Authority on Nutrition and the Science of Balancing Body Chemistry Through Hair Tissue Mineral Analysis!

Hair Tissue Mineral Analysis


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Cholesterol and Mineral Analysis

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Cholesterol and Mineral Analysis

Medical authorities continue to recommend cholesterol-lowering drugs to treat heart disease. However, nutritional research indicates there are many possible causes of heart disease.

What Is Cholesterol?

Cholesterol is the precursor or raw material used to make pituitary and adrenal glands and sex hormones. It is also required to form vitamin D and bile acids. The liver makes about 2 grams of cholesterol daily, regardless of dietary intake. Cholesterol is composed of high-density lipoproteins, or HDL, and low-density lipoproteins or LDL. There are also other fractions. HDL (unoxidized) is often called "*good cholesterol*", while LDL (oxidized) is often termed "*bad cholesterol*". Blood laboratories often measure the ratio between the fractions and total cholesterol.

Does Cholesterol Cause Heart Disease?

About 100 years ago, scientists observed that fatty deposits in arteries often contain cholesterol. This led to the theory that cholesterol is the cause of arterial plaque. Early studies indicated that feeding animals a diet very high in cholesterol caused cholesterol plaques to form. However, some large studies from America, France, India, Africa, the Soviet Union and studies of Eskimos showed no correlation between cholesterol levels, fat intake and heart disease. The amount of LDL, often expressed as a ratio to total cholesterol, is the best measurement that correlates with the incidence of heart disease.

The cholesterol theory of heart disease is very simplistic. It is like saying that duct tape wrapped around a damaged water hose is the cause of the hose damage. More likely the duct tape and the cholesterol are results of the damage, not the cause. In fact, two scientists, Brown and Goldstein, won a Nobel Prize in 1985 for this theory. Cholesterol-containing plaques are often there to protect a damaged artery. A clogged artery is much better than a ruptured one.

What Causes Heart Disease?

Many factors contribute to heart disease. A properly performed hair analysis may help identify a number of them. Here is a list of factors implicated in cardiovascular disease:

- Klevay showed that copper deficiency is associated with atherosclerosis.
- Copper is required for connective tissue synthesis.
- Low thyroid activity is associated with heart disease.
- Zinc deficiency and cadmium toxicity cause hardening of the arteries.
- Magnesium deficiency is related to high blood pressure and heart disease.
- Elevated homocysteine is related to vascular disease.
- Homocysteine, an amino acid, can be reduced by an adequate intake of folic acid and vitamin B6.
- Other vitamins and minerals are needed to combat stress and for the integrity of the arteries.
- Chromium supplements have been shown to lower cholesterol, along with manganese, B-complex vitamins and other nutrients needed for carbohydrate metabolism.
- Inflammation and infections can play a role in artery disease.
- High blood pressure from any cause will affect the arteries.
- Smoking, diabetes, coffee drinking and lack of exercise can contribute.
- Oxidant damage from vegetable oils and other oxidant exposure can cause vascular problems. The oxidant theory may explain why some populations that consume more animal fats have less heart disease.
- Hydrogenated oils such in margarine, salad dressings, mayonnaise and fried foods may contribute to cardiovascular disease. This includes the new margarines that do not contain trans-fatty acids.
- Chlorinated and fluoridated drinking water and residues from ionic detergents may be factors.
- Drinking homogenized milk may be harmful for the arteries.
- Adelle Davis in "*Let's Get Well*", noted that "animals and human volunteers that are fed sugar instead of unrefined carbohydrates develop high cholesterol levels".
- Familial and genetic patterns and emotions such as hostility may play a role.
- According to Rath and Pauling, causes are deficiencies of vitamin C and lysine, needed for collagen synthesis and high lipoprotein-A, a component of LDL. Beware, however, that excessive vitamin C can lead to a copper deficiency. One of the author's patients had a dramatic improvement in heart disease when vitamin C was discontinued and copper was added to her program. A mineral analysis is useful to assess each individual situation.

Cholesterol And Stress

High cholesterol is often a stress indicator. Under stress, the body makes more of it, most likely in an attempt to produce additional adrenal hormones. Any of the factors listed above may increase stress on the body. Stress patterns on a hair mineral test, such as a low sodium/potassium ratio, are often found with elevated cholesterol. Low cholesterol is not healthy either. Serum levels below 120 mg are associated with an increase in depression, strokes and violence.

Cholesterol And Oxidation Types

Healthy fast oxidizers often have low cholesterol levels. They burn fats rapidly and readily convert cholesterol into adrenal and sex hormones. Many fast oxidizers, however, are not in good health. We have often observed cholesterol levels decline in fast oxidizers by *adding* high-quality fats and oils to the diet. Animal fats provide needed acetates and help slow the oxidation rate. Reducing carbohydrates can decrease blood sugar stress.

Dr. Robert Atkins, a cardiologist, has researched high-fat diets and cholesterol for many years. Fast oxidizers tend to be deficient in copper and zinc. If one is very concerned about one's cholesterol, they can substitute high quality vegetable oils such as avocado and olive oil, instead of animal fats which contain some cholesterol. However, the body makes about 10 times the amount of cholesterol that one eats.

Slow oxidizers do not handle fats as well as fast oxidizers. They can develop high serum cholesterol levels because sluggish adrenal glands may not adequately convert cholesterol to adrenal hormones. Some slow oxidizer vegetarians, who eat no cholesterol, have high serum cholesterol due to stress and/or impaired adrenal gland activity.

Saturated vs. Unsaturated Fats

Authorities often recommend vegetable oils over saturated fats. However, oils from soy, corn, canola, sunflower, safflower, peanut and others are refined. They often contain chemical residues and no vitamin E. They can cause oxidant damage that can make vascular disease worse.

We only recommend unrefined olive oil and health store oils, such as flax and hempseed oils. Note that margarine is a partially saturated fat. The raw material is an unsaturated oil, but it is *hardened* or saturated in order to manufacture margarine.

What About Medication?

Drugs to lower cholesterol may have side effects and do not address the biochemical causes of heart disease. They are rarely needed if a patient will follow a scientific health-building program. Improving the diet and lifestyle, balancing body chemistry through proper supplementation and reducing stress are often effective, non-toxic ways to control cholesterol.

Extra niacin, chromium, vitamin B6, L-taurine, dietary fiber and ginger may be added to a nutrition program to help lower LDL cholesterol. We recommend consulting a physician before changing any medication.

References

The following contain many references:

- 1) Davis, A., *Let's Get Well*, 1965.
- 2) Atkins, R., *Dr. Atkins Health Revolution*, 1988.
- 3) Douglass, W., *The Milk of Human Kindness is not Pasteurized*, 1985.
- 4) Wright, J., *Dr. Wrights Book of Nutritional Therapy*, 1979.

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